

### **PROCUREMENT QUALITY ASSURANCE REQUIREMENTS**

This document contains the text of the quality assurance requirements identified in the body of the Purchase Order. Refer to the Purchase Order article titled "Quality Assurance" for a listing of the specific clauses applicable to this procurement action.

The following quality assurance control(s) as specifically identified in the body of this purchase order may be in addition to any other quality assurance controls included in documents, drawings, ordering data, or additional ordering requirements identified elsewhere in this purchase order.

**QA5** Independent Inspection Function

Final acceptance inspections or tests to verify product acceptability shall be performed by personnel other than those who produced the characteristics under review.

The Seller shall perform or have performed all of the inspections and tests required to substantiate product conformance to drawing, specification, and contract requirements on all items supplied as part of this order, and on all characteristics of those items.

Characteristics include any dimensional, visual, functional, mechanical, electrical, chemical, physical, or material feature or property and any manufacturing, fabrication, or process control element which describes and establishes the design, manufacturing, or fabrication requirements of the product.

**QA6** Supplemental Seller QA Requirements Form 74343

Supplemental Seller QA Requirements, Form 74343, applies to this order.

**QA7** Inspection Point Program

An Inspection Point Program (which may be included as part of a process outline or manufacturing or fabrication procedure) which the Seller and his lower-tier suppliers will follow to assure the purchase order requirements will be met, shall be submitted to Bettis via "Approval Request" form (Bettis Form 74157 or Form 73844 as applicable), and approved prior to start of manufacture or fabrication. The Inspection Point Program shall reference drawings and other documents (including applicable revisions) used to prepare the program and shall cover all operations from starting material through final preparation for shipment or release to Bettis, including applicable lower-tier supplier's inspections. Partial Inspection Point Program submittals are authorized provided continuity of the total Inspection Point Program is preserved through explicit identification (tie-in) on subsequent submittals. Each inspection operation identified in the Inspection Point Program shall indicate the stage of manufacture or fabrication where the inspection operation is to be performed. All inspections which are final acceptance inspections in preparation for shipment or release to Bettis shall be indicated by a symbol or other appropriate method.

**QA8** Special Processes Quality Plan

A quality plan shall be established by the Seller to define the specific actions that will be taken to meet the quality requirements related to special processes (e.g., welding, brazing, plating, cleanliness, detrimental material controls, heat treating, hard facing, and nondestructive testing, electric discharge machining, electric chemical machining) contained in this order. The plan shall be submitted to Bettis on an Approval Request

(Bettis Form 74157 or Form 73844 as applicable) and be approved prior to use. All subsequent changes to the plan shall also be approved prior to use. As a minimum, the plan should include:

1. Identification of product or services to be obtained from a lower-tier supplier and the identification of the lower-tier supplier;
2. a description (including identification of applicable procedures) of the inspections and tests that will be performed to control and evaluate the involved special processes, and to assure accomplishment by qualified personnel;
3. a description of special instruments needed to perform the processes, including the identification of the appropriateness of those instruments;
4. a description of the surveillance for product and process verification at the location of the lower-tier supplier to ensure applicable requirements are met; and
5. a description of the personnel qualification program.

**QA9** Seller Record Maintenance

**.1** Maintenance and Access to Files

The record files required by this contract shall be maintained by the Seller in a manner which provides suitable protection from deterioration or damage. Bettis and/or the Government Representative access to specific information contained therein shall be allowed. The Seller shall maintain an official or master file of all quality and inspection records required to prove compliance with purchase order requirements.

Any records required by Bettis at a location other than the Seller's facility and/or at a lower-tier supplier's facility shall be submitted to Bettis upon request and shall be the responsibility of Bettis until such records are returned.

**.2** Duration of Record Maintenance

Notwithstanding the provisions of the article titled "Audit and Records-Negotiation" contained in the General Provisions, record files shall be maintained for a minimum of seven years. At the end of seven years, or a longer period if agreed upon, the Seller shall request instructions from Bettis as to whether the records may be destroyed, forwarded to Bettis, or be retained by the Seller for a longer period (as agreed upon by the Seller and Bettis).

**QA10** Lower-Tier Seller Pass Down Requirements

- .1 A lower-tier Seller is a material supplier or subcontractor who has a purchase order with the Seller or any of his lower-tier Sellers. Other divisions or activities within the Seller's parent facility not under the direct cognizance of the Seller's Quality Control Department, shall be considered lower-tier Sellers.
- .2 The Seller is responsible for the performance of his lower-tier Sellers and shall establish and maintain a quality plan to provide for quality system surveillance and for product and process verification which ensures that applicable requirements are met at lower-tier Seller's facilities or fabrication sites.
- .3 The Seller shall ensure that inspection, manufacturing, and construction procedures, including changes to these procedures to be followed by lower-tier Sellers, are reviewed at a responsible level of management in at least two organizations, i.e., the organization doing the work and at least one higher-tier organization.
- .4 Examples of procedures, and changes thereto, requiring review and concurrence by at least two organizations include, but are not limited to, welding, brazing, plating, heat treating, cleaning, pickling, blasting, soldering, chrome plating, tube rolling, painting, nondestructive testing, water chemistry control, and electrical tests. This requirement does not preclude the necessity for Bettis approval of documents as required by applicable specifications.

**QA15** Material Release

The Seller shall request a release to procure the required materials via an Approval Request (Bettis Form 74157 or Form 73844 as applicable). The Approval Request shall identify the required materials as stated on applicable drawings, procedures, and specifications.

**QA16** Generic Alloy Testing

The Seller shall verify 100% of the starting material generic identity of metallic material in the homogeneous lot. A homogeneous lot is one in which each piece is manufactured from the same heat, batch, or melt, or has the same vendor traceability code number. The generic identity test shall be performed on all metallic material procured by, or supplied to, the Seller, and subsequently a part of this order, unless otherwise noted. The generic test shall not damage the material. For material in an assembly procured by, or supplied to the Seller, generic tests are not required for those parts which are not accessible without disassembly.

**QA17** Obtain and Provide Chemical and Mechanical Reports

Test reports for raw materials (except Bettis-furnished materials) shall accompany the shipment or other release of material to Bettis. For product not destined for Bechtel Bettis, Inc., West Mifflin, PA, required paperwork shall be submitted to the Bettis and/or Government QAR on-site inspectors for their review. The test reports shall include actual test values/results as evidence that all chemical, mechanical, destructive and

nondestructive tests, as required by the purchase order, meet applicable requirements. The test report shall consist of the original or a reproduced copy of the test report as supplied by the testing facility, or a statement that the results were taken from the original test report as furnished by (name of test facility). The information contained on original test reports shall not be altered by write-overs, or obliterations of any kind. Errors requiring correction shall be lined out with a single line and the corrected information entered adjacent to the lined-out information. Each change or addition shall be initialed and dated and supported by written back-up justification supplied by the originator of the test report.

On consecutive shipments of material from the same heat or ingot, the purchase order certification (when such certification is applicable to this purchase order) may refer to the first shipment for chemical and mechanical test reports to minimize duplication of reports.

**QA18** Confirmation of Material Test Reports

The first-tier Seller or subtier supplier who provides finished parts shall confirm material test reports submitted by material supplier(s). Test reports shall accompany the shipment or other release of material to Bettis. For product not destined for Bechtel Bettis, Inc., West Mifflin, PA, required paperwork shall be submitted to the Bettis and/or Government QAR on-site inspectors for their review.

The test reports shall be confirmed by reconducting the chemical analysis and the required acceptance tensile and impact tests, including any other physical property testing required by the governing material specification. These results are then compared to the specification requirements and to the original test reports.

The material test reports shall be confirmed by a testing organization(s) other than the testing organization(s) which generated the original report(s). One confirmation test shall be conducted per lot or heat treatment lot received. The testing may not be conducted if at least six lots of the same material to the same specification, from each involved material supplier, have been tested in one year. Under this condition, the Seller shall submit an "Approval Request" (Form 74157 or Form 73844 as applicable) to Bettis prior to material processing requesting approval to delete independent confirmation of the material lot used under this order.

**QA19** Material Traceability

The Seller shall maintain a positive capability for finding all objective quality evidence, including receipt inspection data, for a particular piece of material, given only the marking on that piece of material. Permanent marking on each piece must provide positive traceability to the unique objective quality evidence for each piece of material including homogeneous lot, heat, melt or batch, and all manufacturer or Seller test and inspection information.

Those items whose size, type, or condition precludes permanent marking from being applied shall be packaged and the package labeled. Containment methods such as bins, trays, or areas on a shelf are not acceptable as a sole means of packaging. All material in a package must be of the same homogeneous lot.

The marking shall be maintained throughout all manufacturing fabrication, processing including heat treatment, storage, and assembly operations. Marking shall not interfere with the functional or quality aspects of the product.

**QA25 Manufacturing Release**

The Seller shall request release to commence manufacturing operations via an Approval Request (Bettis Form 74157 or Form 73844 as applicable). This release request (Approval Request) shall identify all applicable procedure submittals which have been approved which affect manufacturing operations.

**QA26 Seller Instruction Form 73844**

Seller must request Bettis acceptance or approval related to contract technical requirements in the areas of (1) nonconforming conditions; (2) proposed repairs to nonconforming conditions; and (3) proposed procedures, instruction, drawings, releases, etc. Seller submittals for changes and approvals must be made in accordance with Bettis Form 73844.

**QA27 Seller Instruction Form 74157**

Seller must request Bettis acceptance or approval related to contract technical requirements in the area of (1) nonconforming conditions; (2) proposed repairs to nonconforming conditions; and (3) proposed procedures, instruction, drawings, releases, etc. Seller submittals for changes and approvals must be made in accordance with Bettis Form 74157.

**QA28 Product Identification**

- .1 All products shall be serialized in accordance with the requirements of the purchase order; or if serializing information is not given in the purchase order, the Seller shall assign nonrepetitive consecutive numbers to each item before start of manufacture. Care should be exercised to avoid duplication of serial numbers for products ordered on concurrent or subsequent purchase orders. Small parts of materials may be lot serialized, providing each lot is homogeneous with respect to heat number, heat treat batch number (if any), or otherwise contain material characteristics known to be uniform.
- .2 Serial numbers shall be applied to products by means of a vibration pencil with a carbide tip or by electrochemical etch unless otherwise specified in the purchase order. Serial numbers are to be located in areas that will not interfere with the functional or quality aspects of the products. For example, serial numbers are not to be applied to mating surfaces, threads, very thin sections, or areas with a specified surface finish smoother than 125AA. The resulting impression on the metal surface shall be legible. The depth of the depression shall not result in a violation of purchase order requirements.

- .3 Individual parts, subassemblies, and/or assemblies which cannot be marked in accordance with Section .2 shall be assigned temporary identification numbers or letters at the time of measuring and recording of inspection data, e.g., tape on parts, use of paper, plastic, or metal tags attached to parts or enclosed in polyethylene envelopes, or marked on paper bags or wrapping. Proper consideration shall be given to cleanliness and detrimental material controls which may be associated with temporary marking, if such controls applied to this order.
- .4 Serial numbers should be listed on data sheets to maintain traceability of inspection, test, or processing results.

**QA29** In Process Material Verifications

Each part shall be checked by a suitable nondestructive test to determine that the material actually used is of the generic metallurgical group specified. The test shall be performed at the time a serial number is applied by the Seller to the part, if application of product identification is required by this order. Parts shall further be tested either at the time of the assembly into an end item, or just prior to packaging of individual parts for shipment, or otherwise released to Bettis. Sampling inspection is prohibited. The procedure shall be capable of separating and identifying all generic metallurgical groups of alloys in the supplier's shop or contract area.

**QA31** Sampling Inspection

If the Seller proposes to use sampling inspection procedures in lieu of 100% inspection for acceptance, the Seller's proposed sampling procedures shall be submitted to and approved by Bettis prior to use, via the "Approval Request" form (Bettis Form 74157 or Form 73844 as applicable). Submitted sampling plans shall define the following sampling plan information (e.g., MIL-STD-105, MIL-STD-414); single, double, or multiple sampling; normal, reduced, or tightened plans; lot sizes; inspection levels; and the Acceptable Quality Level (AQL), or equivalent aspects of similar plans.

**QA32** Recording and Reporting Inspection Data

The Seller's inspection results shall be recorded on Bettis Data Sheet, Form 73216 (or on an equivalent Seller data sheet); other data shall be recorded on an appropriate Seller-supplied data sheet. Completed inspection data sheets shall be available for review by Bettis and/or Government QAR if such on-site inspection is applicable to this order. The recorded data as described in this section must be provided to Bettis in completion of contract requirements. Certain data may be exempt from being provided, as noted below in this section. However, all data as described must be available for review. For product not destined for Bettis, the data shall be submitted to Bettis and be approved prior to shipment of product.

- .1 All dimensions designated by a delta ( $\Delta$ ) symbol must be measured as recorded as actual values.

- .2 All three or more place decimal dimensions shown on the face of the drawing shall be measured and recorded as actual values for each dimension and for each occurrence designated, except for thread dimensions checked with Go and No-Go thread gages.
- .3 All surface finishes and geometric characteristics (concentricity, parallelism, perpendicularity, etc.) shown on the face of the drawing and/or in the purchase order, and whose tolerances are more restrictive than the standard drawing tolerance, shall be measured and recorded as actual values. Isolated scratches, dents, or other depressions and/or raised metal shall not be included in the surface evaluation. Geometric characteristics covered by the standard drawing need not be recorded when within tolerance.
- .4 All angles with a tolerance of  $\pm 30$  minutes or less shall be measured and recorded as actual values. This data need not be provided at completion of contract requirements, unless otherwise required in this purchase order.
- .5 Gages may be used to determine acceptability of the product when specific recording requirements have not been specified. Use of such gages is subject to concurrence by Bettis. The gage types and serial numbers used shall be identified on Seller's inspection data sheet. Threads may be checked with Go and No-Go thread gages and recorded as "O.K. to gage" (if parts meet limit). The major diameter of external threads and minor diameter of internal threads shall be measured and recorded. When threads are measured using the wire method, measure and record the size of wire used, the major diameter, the pitch diameter, and the minor diameter. In addition, the flank angles and lead shall be measured and recorded when the wire method is used.
- .6 Any characteristics not included in Sections .1 through .5 above shall be listed on the data sheet and shall be measured, and if within tolerance, be recorded as "O.K." or the actual value recorded. If not "O.K.," the actual value must be recorded. This data need not be provided at completion of contract requirements, unless otherwise required in this purchase order.
- .7 Inspection data sheets and sketches shall include purchase order number, drawing number, revision inspected to, item serial number, heat number, date, and signature of the inspector who actually performed the inspection.
- .8 Evidence of performance and acceptability of the results of all test requirements shall be recorded, including nondestructive testing and material qualification compliance. Where the involved test yields actual test values, they shall be so recorded. This data need not be provided at completion of contract requirements, unless otherwise required in this purchase order.
- .9 Inspection results which are not in accordance with purchase order requirements shall be indicated by a symbol (e.g., asterisk) adjacent to the recorded result. If the discrepant condition was accepted in a Degradation of Specification Requirements (DSR) Form, the DSR number shall be referenced on the data sheet.

- .10 The temperature at which dimensional inspection was performed shall be entered on each data sheet.
- .11 All data and information entered on data sheets shall be entered in ink and shall be clear and legible with no write-overs, tape-overs, or obliterations of any type. Erasures are not permitted. Errors requiring correction shall be lined out with a single line and the corrected data entered adjacent to the lined out information. Each change or addition to data sheets shall be initialed and dated.

**QA33 Calibration System**

The Seller shall utilize appropriate gaging, measuring, and test equipment, and shall regularly calibrate his inspection equipment using appropriate standards traceable to the National Institute of Standards and Technology. Standards established by the Seller for calibrating the measuring and test equipment used in controlling product quality shall have the capabilities for accuracy, stability, and range required for intended use. Records of such calibration shall be maintained by the Seller. If the Bettis representative has reason to question the accuracy of the calibration, a recalibration of the questionable equipment may be required and witnessed.

Line-graduated or digital-readout measuring and testing devices shall be graduated to intervals of 10% or less of the specified product tolerance for the characteristic being measured. For characteristics with a single specified limit, the interval between graduations shall be equal to or less than the difference between the measured value and the specified limit. Unless otherwise specified on the applicable approved drawings or in the purchase order, all specified limits shall be interpreted as absolute limits. Therefore, dimensional limits, regardless of the number of decimal places, are used as if they were continued with zeros.

**QA35 Magnet Check**

By using a known piece of carbon steel as a standard for comparison, the Seller shall conduct and record the results of a magnet check of all stainless steel (300 series), nickel-chromium iron alloy (Inconel) and Zircaloy materials supplied on this purchase order to ensure that carbon steel has not been inadvertently used for the fabrication of the products. Results of this inspection requirement shall be identified as "magnetic" or "non-magnetic" on the Inspection Data Sheet or Certification Report.

**QA36 Hardness Testing of Parts**

Hardness testing shall be performed if minimum, maximum, or a range of hardness values for acceptance are identified in specifications, standards, on drawings, or in other contract technical documents. When the location or the surface to be tested is not specified, the test location shall be submitted for approval to Bettis via "Approval Request" form (Bettis Form 74157 or Form 73844 as applicable).

**QA38** Radiographic Documentation

All radiographic films are subject to final review and approval by Bettis and/or the Government QAR and shall be accompanied by the Seller's completed radiographic review form. The record shall identify the specific procedure employed (including procedure number, date and/or revision number) and the specific Bettis approval document when applicable.

Bettis reserves the right to review the film on its premises or other such places as may be designated. In such cases, shipment of films shall be requested of the Seller, in writing, by Bettis. Submittal of film and radiographic review form shall be by registered mail. Bettis will assume responsibility for the films to the extent of liability for reradiography, until they are returned to the Seller. When the purchase order requires the performance of a radiographic "technique shot", the technique shot radiographs and appropriate accompanying data shall be submitted to Bettis for approval. The technique shot radiographs and accompanying data shall be submitted by use of an "Approval Request" (Bettis Form 74157 or Form 73844 as applicable).

**QA39** Ultrasonic Test Documentation

Ultrasonic test procedures shall be submitted to Bettis when procedure approval is required by the purchase order. Ultrasonic test procedures shall be detailed to the extent that Bettis is able to determine the adequacy and extent of the testing to be performed. When additional information such as position charts, sketches, etc. are pertinent, they shall be submitted with the procedures. Objective evidence of ultrasonic test performance (tapes, traces, charts, etc.) shall be retained by the Seller, and shall be made available for review by Bettis and/or the Government QAR upon request. The record shall identify the specific procedure employed (including procedure number, date and/or revision number), and the specific Bettis approval document when applicable. Bettis reserves the right to review the objective evidence of ultrasonic test performance on its premises or other places as may be designated. In such cases, shipment of records shall be requested in writing by Bettis and shall be transmitted from Seller by registered mail. Bettis will assume responsibility for the test records to the extent of liability for reultrasonic testing, until they are returned to the Seller.

**QA40** Liquid Penetrant Test Documentation

- .1 The Seller shall record the results of all liquid penetrant inspection. The records shall clearly specify the applicable specification, standard, and acceptance criteria identified in the purchase order. Documentation of approvals and qualification shall be maintained in the Seller's records. As a minimum, the test report shall identify the Seller's penetrant test procedure employed (include procedure number, date, and/or revision number), when applicable, personnel performing the inspection, and the results of the penetrant test including accept-reject disposition and description of indications by size and number where applicable. All records shall be made available for review by Bettis and/or the Government QAR.
- .2 When liquid penetrant procedure and/or test personnel qualification is required by a Bettis Specification applicable to a purchase order, prior approval of liquid penetrant procedure and/or personnel to any other equivalent Bettis or military

specification shall be considered acceptable when applied to the purchase order. Documentation of prior approvals shall be provided in accordance with Section .1. Where prior approvals do not exist, or procedure and/or personnel qualification is required by the purchase order, approval and qualification shall be obtained in accordance with the purchase order requirements.

**QA41 Magnetic Particle Test Documentation**

Seller shall record the results of all magnetic particle inspections performed when the purchase order requires magnetic particle inspection. The records shall clearly specify the applicable specification, acceptance standards, and test procedure employed (include procedure number, date, and/or revision number), the specific Bettis approval document, when applicable, and personnel performing the inspection. Documentation of approvals and qualifications shall be maintained in the Seller's records. All records shall be made available for review by Bettis and/or the Government QAR.

**QA45 Submittal of Heat Treatment Procedure**

Unless specified elsewhere in this contract, the Seller shall submit to Bettis the heat treatment procedure for approval via "Approval Request" form (Bettis Form 74157 or Form 73844 as applicable). If the heat treatment procedure involves a specific standard which may be identified elsewhere in this order, the submittal must be certified by the Seller as meeting the minimum requirements of that standard. Heat treatment shall not commence until Bettis approval is received. For standard products that are heat treated and stocked in advance of an order, the Seller shall submit the heat treatment procedure for information. The heat treatment procedure shall include but is not necessarily limited to time and temperature, quenching methods and mediums, furnace type, temperature measurement and control methods, including a description of calibration controls on temperature indicating, recording, and controlling instruments and control of detrimental materials.

**QA46 Submittal of Furnace charts**

Furnace charts shall be marked at the time of heat treatment with the following information: date, operator(s), furnace identification, heat treatment lot number, standard time interval (e.g., one hour) or the starting time and chart speed, traceability marking of each piece in the heat treatment lot, and any thermocouple failure, malfunction, or disconnection. The furnace charts shall be submitted to Bettis in completion of this order. For product not destined for Bechtel Bettis, Inc., West Mifflin, PA, required furnace charts shall be submitted to Bettis and be approved prior to shipment of product. Submittal shall be via "Approval Request" (Bettis Form 74157 or Form 73844 as applicable).

**QA47 Submittal of Sample Material Tests**

Sample material of the same lot as material being heat treated and of the same maximum cross-sectional thickness and the same length or 12 inches, whichever is less, as the part(s) or material being heat treated, shall be provided to accompany the heat treatment lot. In no case shall the sample size be less than that required for machining the test specimen.

The sample material shall be tested after heat treatment to verify conformance with the tensile, Charpy, grain size, or microstructure requirements specified in the material specification. Subsequent testing of parts (or specimens) in the final heat treatment condition in accordance with a part specification complies with this requirement. Test results of the heat treatment capability sample provided by the raw material supplier may not be substituted for these tests. Only one set of tests and evaluations need be performed for each heat treatment lot, regardless of the number of bars/rods represented in the heat treatment lot.

The sample material shall be heat treated with the heat treatment lot represented by the sample and shall be located in the furnace, within the working zone adjacent to the lot being heat treated.

Test reports shall be prepared and forwarded to Bettis in completion of this order. For product not destined for Bechtel Bettis, Inc., West Mifflin, PA, required paperwork shall be submitted to Bettis and be approved prior to shipment of product. Submittal shall be via "Approval Request" (Bettis Form 74157 or Form 73844 as applicable).

#### **QA48 Personnel, Process, Equipment, or Procedure Qualification Approvals**

Whenever the provisions of this contract, including the specifications and standards invoked by this contract, require the Seller or sub-tiered supplier(s) to have qualified personnel, processes, equipment, or procedures, the Seller shall submit the qualification program to Bettis for approval via an "Approval Request" (Bettis Form 74157 or Form 73844 as applicable). Work supported by the qualifications shall not commence until approval is given. For standard products that are manufactured or otherwise completed in advance of this order, the Seller shall submit the qualification program for information.

#### **QA49 Source Inspection Administrative Requirements**

##### **.1 Mandatory Hold Points**

- .1.1 Mandatory Hold Points (MHP) defining the specific operations in the Seller's manufacturing, construction, and/or inspection sequence that are to be witnessed, inspected, or reviewed by a Bettis Representative will be identified by Bettis. A Bettis MHP shall not be bypassed by the Seller unless written authorization has been obtained from Bettis. All operations up to a MHP or purchase order completion if a MHP does not apply, shall have been accepted by the Seller as meeting contractual requirements prior to notification to Bettis for verification.
- .1.2 When a MHP is not issued with a purchase order or change notice requiring Bettis source inspection, inspection shall be performed by Bettis upon the Seller's completion of the purchase order requirements.

- .1.3 When a MHP is identified as "witness", the Bettis Representative will observe the operation or inspection when it is initially performed by the Seller or his lower-tier supplier for acceptance of the product.
- .1.4 When a MHP is identified as "inspect", the Bettis Representative will physically perform the inspection work element specified independent of the Seller's inspection. However, if extensive set up or use of a complex machine or fixture is required to perform the inspection, or testing is permitted only once or a very limited number of times (e.g., destructive tests, load tests, electrical product insulation testing), the Bettis Representative shall perform his inspection concurrently with the Seller's inspection. In such cases, the Bettis Representative will make an independent assessment of the gage or instrument readings for such inspections.
- .1.5 If any portion of the purchase order involving a MHP is to be performed by a lower-tier supplier, the Seller shall notify Bettis prior to placing the purchase order with that supplier so that arrangements can be made to accomplish source inspection of the MHP.
- .1.6 The Seller shall furnish Bettis advance notice of inspections for Mandatory Hold Points or final inspection, whichever is applicable, as follows:

Day of Inspection

Notification Required

Monday

Preceding Thursday

Tuesday through Friday

Minimum of 48 clock hours in advance

In those cases where a Bettis Representative is in residence at Seller's facility, only reasonable notification is required unless otherwise specified in the purchase order. In the case of inspection to be performed at a lower-tier supplier's facility, it is the responsibility of the Seller to notify Bettis.

.2 Bettis Authorization to Ship Product

When Bettis source inspection is specified, an Inspection Release (Form 73701) will be issued by the Bettis Representative and attached to the accepted product. The product shall not be shipped or otherwise released to Bettis without having an Inspection Release attached unless prior written authorization is received from Bettis.

.3 Deficiency Notice (Form 73736)

When deficiencies in the Seller's operations are revealed by a Bettis Representative, a Deficiency Notice will be prepared and presented to the Seller who shall reply in writing to Bettis within the time period specified on the Deficiency Notice. Seller's reply shall state the root cause of the deficiency, the effect on other components or parts, the immediate corrective action taken or planned, and the action taken to prevent recurrence.

**.4 Use of Seller's Inspection Equipment**

The Seller is responsible to account for his inspection tools used by Bettis to assure that prior to the Seller performing additional work or shipping the product to Bettis, all such inspection tools have been returned to the Seller in the same condition as loaned. Furthermore, the Seller shall make every effort to witness the inspection and immediately notify the Bettis Representative of any detrimental effects on the equipment from such inspection. However, if for some reason the Seller does not witness the inspection, Seller shall report any detrimental effects of such inspection to Bettis within two working days of the inspection or assume responsibility for the detrimental effects.

**QA50 Final Acceptance Inspection**

Visually inspect 100% of the completed components immediately prior to packaging and packing or release to Bettis for: cleanliness, quality of plating, nameplate data, no evidence of handling damage or surface discrepancies, assurance that the component is compatible with final assembly drawing configuration concerning orientation of parts, correct quantity of parts, completeness of assembly, correctness of installation of locking devices to the extent practicable without requiring disassembly, and for inclusion of correct quantities of associated hardware which are to be shipped unassembled.

**QA52 Standard Packing and Packaging**

The Seller shall use packing and packaging in accordance with the Seller's commercial practice which will ensure no in-transit damage of the components until receipt at the shipping destination.

**QA53 Packaging/Packing Procedure Approval**

A procedure for packaging and packing, including drawings or sketches of shipping fixtures, location of manufactured items within and method of internally securing the items shall be submitted for approval via Approval Request (Bettis Form 74157 or 73844 as applicable). The packing and packaging procedure shall be prepared in accordance with the Seller's commercial practice which will ensure maintenance of the degree of cleanliness required for the component or part until delivered and accepted at shipping destination.

**QA56 Certifications - General**

Certification and reports are required as specified herein. When the purchase order specifies Bettis and/or Government inspection of Seller's facility a copy of all required certifications and reports (including inspection data sheets compiled in a data package) shall be made available for review by the Bettis and/or Government QAR representative.

When required by the purchase order, Seller's data package shall be forwarded to Bettis and approved prior to release of product. Upon release of product for shipment, Seller shall mail two additional sets of the required certifications and reports to Bechtel Bettis, Inc., West Mifflin, PA. If the purchase order does not specify Bettis and/or Government inspection at Seller's facility, one set of the required certifications and

reports shall accompany each shipment, and two additional sets are to be forwarded to Bechtel Bettis, Inc., West Mifflin, PA.

When Government source inspection is required, the Seller shall forward two copies of the Government signed DD Form 250 to Bechtel Bettis, Inc., West Mifflin, PA. In addition, a copy of the Government signed DD Form 250 shall accompany each shipment.

All exceptions to the method defined herein for transmitting certifications and reports to Bechtel Bettis, Inc., West Mifflin, PA, shall be specified in the purchase order.

**QA57 Certifications for Bettis Supplied Material**

For each shipment or release of purchase orders where material is furnished by Bettis, the Seller shall prepare a certification stating that there was no substitution of materials supplied by Bettis (using heat numbers where available) in the production or completion of the purchase order items involved in the shipment or other release to Bettis, and that the materials were applied as directed in the purchase order.

**QA58 Order Certification**

- .1 The Seller shall certify conformance to all purchase order requirements via an order certification. This certification shall be based on a formal review by Seller's management personnel, including a sampling of inspection and manufacturing records. Upon request by Bettis and/or the Government QAR, the Seller shall furnish objective evidence substantiating Seller's order certification.
- .2 In those cases where the purchase order designates that shipment is to be made to a destination other than Bechtel Bettis, Inc., West Mifflin, PA, an order certification is also to accompany the product along with a copy of each approved Degradation of Specification Requirements (DSR) issued during the manufacturing and inspection sequence, where use of DSRs are applied to the purchase order.
- .3 An order certification shall include as a minimum:
  - .3.1 A statement by Seller certifying that the products conform with purchase order requirements; e.g., "(Seller's name) hereby certifies that the products described herein meet the requirements of the purchase order, with the exception of approved 'Request for Engineering Change' or 'Request for Approval of Degradation of Specification Requirements' listed below."
  - .3.2 Bettis purchase order number, change notices, purchase order item numbers, and quantity of each purchase order item in the shipment or release to Bettis. Include the serial number and/or the material heat number of the purchase order items, if applicable.
  - .3.3 A list of all specification numbers, drawing numbers, and/or catalog numbers including applicable revisions.

- .3.4 Where applicable, the certifications shall list all Bettis approved "Request for Engineering Change", "Request for Approval of Degradation of Specification Requirements", and "Approval Requests".
- .3.5 Signature and title of an authorized representative of the Seller.

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